

CLAIMS

1. A lead-free solder, which contains zinc and tin, and also contains 5 weight percent or less nickel with a liquid phase temperature of 260°C or greater.
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2. A lead-free solder, which has a liquid phase temperature of 260°C or greater, and contains 30 to 70 weight percent zinc, 5 weight percent or less nickel, and the remaining weight percent tin.
- 10 3. A lead-free solder, which contains zinc and tin, and also contains 5 weight percent or less nickel and 0.5 weight percent or less aluminum with a liquid phase temperature of 260°C or greater.
4. A lead-free solder, which contains zinc and tin, and also contains 1 weight percent or
15 less copper with a liquid phase temperature of 260°C or greater.
5. A lead-free solder containing zinc and tin, wherein the content ratio of said zinc and tin is set so that the temperature difference between a solid phase temperature and a liquid phase temperature is at least 60°C.
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6. A lead-free joint, which contains zinc and tin, and also contains 5 weight percent or less nickel.
7. The lead-free joint according to claim 6, wherein said joint is used in copper
25 connections.

8. A lead-free joint, which contains 30 to 70 weight percent zinc, 5 weight percent or less nickel, and the remaining weight percent tin.

5 9. The lead-free joint according to claim 8, wherein said joint is used in copper connections.

10. A lead-free joint, which contains zinc and tin, and also contains 5 weight percent or less nickel and 0.5 weight percent or less aluminum.

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11. The lead-free joint according to claim 10, wherein said joint is used in copper connections.

12. A lead-free joint containing zinc and tin, wherein the content ratio of said zinc and tin
15 is set so that the temperature difference between a solid phase temperature and a liquid phase temperature is at least 60°C.

13. The lead-free joint according to claim 12, wherein said joint is used in copper connections.

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